THE INTERLAPPING OF DEPOSITION ZONES EFFECTED BY CLIMATIC OSCILLATIONS.

Owing to their low altitude and the hot column of air rising from them, relatively little rain falls on the plains and precipitation is for the most part confined to snow upon the mountains. Obviously, a regional decrease in precipitation involves a general shrinkage of glaciers, lakes, and areas of alluvial activity, and a sympathetic expansion of flying sands over abandoned portions of both lacustrian and alluvial zones, while the alluvial zone would recede mountainwards, encroaching on the loess zone, itself undergoing shrinkage for lack of rainfall on areas where grass had scarcely existed under the old supply. And it would be *vice versa* with increased precipitation. Continued oscillations, then, would bring about a column with alternating lacustrian sediments and modified dune-sand on the inner belt of overlap, one of alluvium and dune-sand on the middle belt, and one of alluvium and loess on the outer belt of overlap, while buried erosion surfaces of dead loess should be indicated in sections of loess where it has felt the change. And there would be successive moraines of different epochs overlying each other in the glacial zone. If these oscillations were sufficiently great, the middle belt of overlap would alternate with loess, alluvium, and dune-sand repeated in that order, unless the topography was such that an interior sea would expand to consume the whole area. Thus would climatic change record itself.

The task of finding records in the mountains is in some ways easier than on the plains, in others harder; records there are on a large scale, but those of climatic variations are so tangled with those of crustal movements that, if it were not the constancy of upward movement, which in itself seems to involve a peculiar kind of climatic change, the task would be well-nigh impossible. Moreover, data like that of the shifting of man's abode, so often found on the plains, are almost lacking in the mountains. It is to the topography and glaciology that we must turn. If uplift of the mountains had only been so simple as an equal and unbroken uplift of all the ranges together, it would be an easy thing to trace the stages of topographical developments; but unfortunately it is the inequality of recent uplift that gives the mountains some of their most striking features, fault-scarps and high-tilted blocks.

THE CYCLICAL DEVELOPMENT OF AN IDEAL DESERT BASIN.

To throw any light on those changes enacted by the deserts of Central Asia since the advent of man upon them, it is necessary to incorporate a reconstruction far back into the four controlling and more or less interdependent variables—uplift, erosion, aggradation, and climate. The most vital question is, What was the climate at any given time? But its solution depends much on the other three. Beginning with a theoretical development of these variables, let us picture the life of an ideal desert basin of the simplest kind. Born under the impulse of terrestrial forces, spontaneous adjustments in the stresses of our planet's crust, its complete periphery of high mountain ranges would then be left to the tools of solar energy; and the aspect of such a basin as a whole would alternate between